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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/023,798	12/21/2001	Jae-Young Ha	P56626	3825

7590 07/29/2003

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EXAMINER	
HODGES, MATTHEW P	

ART UNIT	PAPER NUMBER
2879	

DATE MAILED: 07/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/023,798	HA ET AL.	
	Examiner	Art Unit	
	Matt P Hodges	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 December 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Drawings

Figures 1, 2, 3a, 3b, and 3c should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-5 and 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nose et al. (US 5,898,264) in view of Sugawara et al. (US 6,462,466).

Regarding claims 1, 5, 10, and 14, Nose discloses (see figure 7) a CRT including a panel (20), a phosphor layer (23) on the panel, a funnel (22), a neck (21), a stem (14), and an electron gun (28). (Column 1 lines 32-40). Nose further discloses (see figure 1) the neck portion including an electron gun housing portion and a sealing portion that is larger in diameter than the

electron gun housing portion and includes a flare portion. Further the stem portion includes inner stem pins (13a), outer stem pins (13), and stem mounds (11). (Column 4 lines 57-64). Nose also discloses the use of a separation of the stem mounds from the sealing wall being anywhere between 0mm to 2.1mm. (Column 3 lines 58-60). Nose does not appear to specify the use of a stem portion with the inner stem pin diameter being less than the outer stem pin diameter. However Sugawara (see figure 5), in the same field of endeavor, disclose the use of stem pins being slanted away from the center of the stem portion in the connection from the inner stem pins to the outer stem pins in order to create a larger stem pin diameter in the outer stem pin portion than in the inner stem pin portion. The use of a larger stem pin diameter in the outer stem pin portion allows for a greater number of stem pins while still allowing for a reduced size in the inner stem pin circle and thus the neck diameter. Minimizing the neck diameter would advantageously reduce power consumption, while allowing for a greater number of external stem pins to provide dynamic focusing. (Column 1 lines 36-47) and (Column 3 lines 29-33). Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art to incorporate the use of a stem portion with the inner stem pin diameter being less than the outer stem pin diameter as described by Sugawara into the CRT as disclosed by Nose in order to advantageously reduce power consumption, while allowing for a greater number of external stem pins to provide dynamic focusing.

Regarding claims 2 and 11, Nose in view of Sugawara discloses the device as claimed but does not appear to specify the use of an outer neck diameter in the area of the electron gun being between 21.8mm to 23.2mm. However the applicant fails to identify the use of an outer neck diameter in the area of the electron gun being between 21.8mm to 23.2mm to solve any problem

or yield any unexpected result that is not within in the scope of the teachings relied upon. Further the use of a smaller neck is known in the art to reduce the operating voltages and the use of a flare portion in the sealing portion along with an outer stem pin diameter being greater than the inner stem pin diameter are separately known to beneficially allow for a smaller neck diameter. Finally it has been held that a change in size is generally recognized as being within the level of ordinary skill in the art. It would have been an obvious design choice to one having ordinary skill in the art to use a neck with an outer neck diameter in the area of the electron gun being between 21.8mm to 23.2mm, since such a modification would have involved a mere change in the size of a component.

Regarding claims 3, 4, 12 and 13, the number of pins on the stem is 10. (Column 5 lines 1-25).

Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawamura et al. (US 5,818,155).

Regarding claims 6 and 7, Kawamura discloses (see figure 12) a CRT including a panel (2), a phosphor layer (3) on the panel, a funnel (5), a neck (4), a stem (8), and an electron gun (6). (Column 7 lines 57-64). Kawamura further discloses (see figure 1) the neck portion including an electron gun housing portion and a sealing portion that is larger in diameter, in both the inside and outside of the neck, than the electron gun housing portion and includes a flare portion. Further the stem portion includes inner stem pins, outer stem pins (10), and stem mounds (13). (Column 8 lines 45-50) and (Column 8 lines 28-30). Kawamura does not appear to specify the use of an outer neck diameter in the area of the electron gun being between

21.8mm to 23.2mm and the outer diameter of the stem sealing region being less than or equal to 24mm. However the applicant fails to identify the use of an outer neck diameter in the area of the electron gun being between 21.8mm to 23.2mm and the outer diameter of the stem sealing region being less than or equal to 24mm to solve any problem or yield any unexpected result that is not within in the scope of the teachings relied upon. Further the use of a smaller neck is known in the art to reduce the operating voltages and the use of a flare portion in the sealing portion is known to beneficially allow for a smaller neck diameter. Finally it has been held that a change in size is generally recognized as being within the level of ordinary skill in the art. It would have been an obvious design choice to one having ordinary skill in the art to use a neck with an outer neck diameter in the area of the electron gun being between 21.8mm to 23.2mm and the outer diameter of the stem sealing region being less than or equal to 24mm, since such a modification would have involved a mere change in the size of a component.

Regarding claims 8 and 9, the stem portion as described above is sealed into the neck. (Column 1 lines 6-13).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ueda et al. (US 5,777,430) discloses the use of a flare portion on the neck portion.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matt P Hodges whose telephone number is (703) 305-4015. The examiner can normally be reached on 7:30 AM to 4:00 PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (703) 305-4794. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7382 for regular communications and (703) 308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Joseph Williams

mph MH
July 21, 2003